

Centers for Learning and Teaching Program Evaluation

September 2003

Program Goals

1. Build capacity in the field: Increase significantly the numbers of K-12 STEM educators with the content and pedagogical knowledge base to improve student learning.
2. Leadership: Rebuild and diversify the human resource base that forms the national infrastructure for STEM education.

Program Goals, continued

3. Research: Provide substantive opportunities for research on learning, teaching, policy and outcomes of reform.

Research Questions

Context Leadership Study

Michigan State University

1. Characteristics of current leaders?
2. What led to their leadership and influence?
3. What has been their role?
4. Where will the next generation of leaders come from?

Research Questions

Context Leadership Study, continued

- Data sources include: study of doctoral programs; interview study of leaders; examination of doctoral programs in market perspective

Research Questions

Program Evaluation

1. In what ways and to what extent do the CLTs reflect the models proposed in their initial applications and subsequent modifications?
2. To what extent are individual CLTs meeting the goals of the Program?
3. What is the value-added of creating CLTs for the achievement of desired outcomes?
4. To what extent does the CLT portfolio appropriately meet national STEM education needs?

Evaluation Components

1. Quantitative Data: Abt Associates

Surveys of PIs, participating faculty, graduate students, participants in professional development.

Further analyses of data gathered through annual reporting.

Evaluation Components

2. Qualitative Data: SRI

Development of a Logic Model that examines the Program's internal processes, external context and change processes.

Interviews with NSF staff, PIs, key personnel, faculty, graduate students, participating teachers.

Site visits to CLTs in cohorts 1, 2 and 3.

Evaluation Components

3. Annual Reporting Data: Westat

Created an online data collection and monitoring system to obtain information from each center about participating faculty, graduate students, postdoctoral fellows, teachers, administrators and informal science educators.

Each component reports annually to NSF and an integrated report will be developed in 2004.

Evaluation Components

4. Individual Evaluations from each CLT.

Provides both formative and summative data to individual CLTs through tracking and documenting progress, challenges, strategic approaches.